

Walsh G, Lindridge A, Mitchell V-W, Kilian T.

[Investigating consumer confusion proneness cross-culturally: empirical evidence from the USA, Germany, and Thailand.](#)

International Journal of Markets and Business Systems 2016, 2(3), 226-242

Copyright:

This is the authors' accepted manuscript of an article that was published in its final definitive form by Inderscience, 2016.

DOI link to article:

<https://doi.org/10.1504/IJMABS.2016.10002467>

Date deposited:

05/10/2017

Embargo release date:

26 March 2017

Investigating Consumer Confusion Proneness Cross-Culturally: Empirical Evidence from the United States, Germany, and Thailand

ABSTRACT

With ever increasing amounts of marketplace information, decreasing inter-brand differences, and increasingly complex products confusion is becoming a [global](#) problem for consumers ~~the world over~~. Although confusion has been identified as a problem for consumers and marketers in many countries ~~and have not been shown to be cross-culturally valid~~, most measures of consumer confusion have been developed in western countries, including Walsh et al.'s (2007) consumer confusion proneness (CCP) scale, ~~and have not been shown to be cross-culturally valid~~. Thus, relatively little is known about the cross-cultural differences in confusion proneness. Using the three-dimensional, nine-item CCP scale developed in Germany, this study explores cross-cultural differences in consumer proneness in the United States as well as in Germany and Thailand. The results reveal that some factor loadings of the CCP scale are not invariant across samples and that unique factor structures emerge for the U.S. and Thai samples. The results are discussed as well as the marketing implications.

Key words: Consumer confusion proneness, culture, Germany, Thailand, United States

1. Introduction

Walsh, Hennig-Thurau and Mitchell (2007) contend that consumer confusion proneness (CCP) is a consumer trait that can pervade almost every decision that consumers make.

Incidences of consumer confusion have been reported in many different countries and in a host of product and services categories such as food (Wobker et al. 2015), consumer electronics (Chen and Chang 2013), watches (Mitchell and Papavassiliou 1997), fashion (Cheary 1997), telecommunications (e.g., Kasper et al. 2010), health and travel insurance (Brierley 1995), online tourism (Lu and Gursoy 2015), own-label brands (Balabanis and Craven 1997), and in relation to nutritional labels (Leek, Szmigin and Baker 2015; Spiteri Cornish and Moraes 2015). The surge in research devoted to consumer confusion may be attributable to the fact that confusion is associated with several unfavorable behavior-related consequences, such as, dissatisfaction (Walsh and Mitchell 2010), negative word-of-mouth (Turnbull, Leek, and Ying 2000), cognitive dissonance (Mitchell and Papavassiliou 1999), decision postponement (Jacoby and Morrin 1998; Lu, Gursoy and Lu 2016) and decreased loyalty (Foxman, Muehling, and Berger 1990), all of which can negatively affect company profits.

While incidences of consumer confusion have been predominately reported in western societies, such as the U.S. (e.g., Foxman, Muehling, and Berger 1990), the Netherlands (Kasper et al. 2010; Poiesz and Verhallen 1989), Germany (Walsh, Hennig-Thurau and Mitchell 2007; Wobker et al. 2015), France (Kapferer 1995), the UK (e.g., Mitchell and Bates 1998; Wang and Shukla 2013), increasingly research is being conducted in non-western, eastern collectivist countries such as China (Leek and Kun 2006), Indonesia (Tjiptono et al. 2014), and Thailand (Leek and Chansawatkit 2006). However, comparability of findings [is](#) [are](#) limited due to different methodological approaches. Some scholars use qualitative techniques (e.g., Spiteri Cornish and Moraes 2015), others use experiments (e.g., Garaus and

Wagner 2016) or measurement scales (e.g., Walsh and Mitchell 2005a). Studies falling into the latter category cannot be easily compared either because scholars use different measurement instruments. For example, Kasper et al. (2010) in the Netherlands and Wobker et al. (2015) in Germany employ a uni-dimensional (overload) confusion measure adopted from Sproles and Kendall (1986), whereas Schweizer et al. (2006) use a six-dimensional measure in Switzerland. Despite a variety of different measures, recent research appears to converge on the precept that CCP can be usefully measured using Walsh et al.'s (2007) three-dimensional scale (e.g., Tjiptono et al. 2014; Wang and Shukla 2013). The CCP scale distinguishes three dimensions—stimulus similarity proneness, stimulus overload proneness, and stimulus ambiguity proneness. While valuable, these studies focus on certain product categories such as smartphones (e.g., Tjiptono et al. 2014) or mobile phones (Wang and Shukla 2013), thus ignoring the notion that CCP is a consumer trait and is not unique to specific product categories.

Furthermore, despite garnering interest among marketing researchers and practitioners, the reflective CCP scale (Walsh et al. 2007) seems to continue to suffer from slow uptake. This slow diffusion might occur because the original scale development took place in a German market context, which differs from other Western contexts with regard to product variety, advertising intensity, and consumer education (Walsh et al. 2001). The pertinent literature suggests that consumer behavior and vulnerability differ across cultures (Broderick et al. 2011). Thus, scholars might be reluctant to adopt the scale to measure consumer confusion proneness in other countries. The field thus needs a thorough re-examination of the scale and its measurement properties in other cultural contexts.

Therefore, this study, ~~therefore, aims to~~ addresses this-these criticisms by exploring CCP in three countries—the U.S., Germany (both representing Western individualistic countries), and Thailand (representing an Eastern collectivistic country). Specifically, this

research will address the research gap through three objectives: (1) to test a Western orientated CCP scale's reliability and validity in contrasting countries; (2) explore the invariance of the CCP scale; and (3) to discuss the results in reference to the marketing implications and consequences for cross-cultural research and consumer education.

2. Background

2.1 The Concept of consumer confusion proneness

A review of the literature (e.g., Mitchell, Walsh, and Yamin 2005; Walsh et al. 2010) reveals that the concept of consumer confusion can be traced back to three different areas: (1) brand similarity, (2) information overload, and (3) information ambiguity. Accordingly, Mitchell et al. (2005) conceptualized d consumer confusion proneness as a ~~three~~ dimensional~~three-dimensional~~ construct. In the following, each dimension is briefly discussed.

Similarity confusion proneness

Similarity confusion proneness is defined as a consumers' propensity to think that different products in a product category are visually and functionally similar (Walsh, Mitchell, Kilian, and Miller 2010). This propensity results in consumers potentially altering their choice because of the perceived physical similarity of products. The implicit assumption is that consumers rely on visual cues to locate and distinguish brands and when presented with similar brands, can buy a fake or a retailer own-label brand thinking it is the original (Walsh and Mitchell 2005b). Similarity, ~~in~~ advertisements and commercial messages may also stimulate similarity confusion proneness (e.g., Brengman, Geuens, and De Pelsmacker 2001; Poiesz and Verhallen 1989).

Overload confusion proneness

Walsh et al. (2007) defined d overload confusion proneness as the consumers' difficulty in product decision-making when confronted with more alternatives and information than they can process. This results in consumers having difficulty to get to know, to compare and

to comprehend alternatives. Sproles and Kendall (1986) and Shim and Gerht (1996) attributed this difficulty to consumers' limited cognitive abilities. As ~~their consumers'~~ capacity for choice is not infinitely expandable, and once the amount of stimuli passes a certain threshold, it overloads ~~them the consumer, and leads leading to consumer~~ confusion.

Ambiguity confusion proneness

Ambiguity confusion proneness is defined as consumers' tolerance for processing unclear, misleading, or ambiguous, product-related information (Turnbull et al. 2000; Wang and Shukla 2013). Other researchers have stressed different aspects, such as; product complexity, ambiguous information or false product claims (Chryssochoidis 2000; Kangun and Polonsky 1995), non-transparent pricing (e.g., Berry and Yadav 1996) or poorly presented nutritional information on products (e.g., Spiteri Cornish and Morares 2015). ~~All of which cause problems of understanding on part of the consumer. Huffman and Kahn (1998) contend that confusion is due to the perceived complexity, which they explicitly differentiate from the 'actual' complexity or variety, suggesting that some consumers can perceive confusion even if the actual number of stimuli is small.~~

Next, we assess the dimensionality, reliability and validity of the CCP construct in three culturally distinct countries.

3. Methodology

Research into cross-cultural differences in consumer behavior poses two challenges. First, finding suitable countries is difficult because time and financial constraints often preclude the inclusion of many potentially suitable countries in the study. Second, selecting an appropriate sample within the chosen countries is often driven by convenience and not theoretical considerations, which poses a hurdle to the comparability of results (Calder, Philips and Tybout 1980). Our convenience samples, resulted in three samples comprising relatively young consumers (see Table 1) which is an advantage in terms of comparability.

3.1 Choice of countries

U.S. The majority of consumer confusion research has been conducted in the [U.S.](#). The competitive and dynamic American marketplace may be more likely to encompass conditions in which consumer confusion occurs. In fact, evidence suggests that consumer confusion is still prevalent across many product and service categories and shows no signs of abating (Consumer Federation of America 2015). However, so far there has been no U.S.-based empirical research drawing on a multidimensional conceptualization of consumer confusion or an application of the CCP scale.

Germany. The consumer confusion-proneness scale used in this study was developed in Germany by Walsh et al. (2007). Evidence suggests that consumer confusion is prevalent in developed countries with vibrant and competitive marketplaces characterized by an abundance of new products. In 2014, 66,000 brand applications were filed in Germany (DPMA 2015, p. 2) and there is a high and rising consumption of retailer's own brands (approx. 50%; Symphony IRI 2011). Moreover, brand imitation is commonplace¹. Despite Germany being the largest country within the European Union, with more than 80 million inhabitants and one of the highest GDPs per capita in the world, few studies dealing with confusion have focused on it.

Thailand. The choice of Thailand as a consumer market to study consumer confusion is a logical one. From a consumer perspective, Thailand [experienced increased consumer confidence and 's spending financed through several years of economy-economicenjoyed healthy growth for several years](#) (until the coup [d'étatd'état](#) in May 2014) (U.S. Central Intelligence Agency 2015), [resulting in increased consumer confidence spending](#). An outcome [of this economic growth isbeing](#) Thai consumers are: exercising more choice (Wongtada, Leekulthanit and Singhapakdi 1998), [become-becoming](#) more fashion conscious (Jantararat et al. 2012), [and](#) increasingly buying branded goods, consumer electronics and foreign-made

luxury goods (French and Crabbe 1998). A consequence of this economic growth ~~has seen is~~ Thailand's ~~becoming a double-digit growth in the growing~~ private label market ~~in Asia with double-digit growth rates~~ (Thanasuta 2015). Such growth may increase the likelihood ~~of to the~~ consumers ~~s~~ mistaking own-label products for a manufacturer's ~~own~~ brand. Moreover, ~~Thailand-Thai consumers~~ may be particularly prone to similarity confusion proneness owing to ~~Thailand it~~ being a major producer and supplier of counterfeit goods and western brands (Chuchinprakarn 2003).

3.2 Samples, data collection, and measure

After conducting a pretest of the questionnaire in the U.S., Germany, and Thailand, self-administered questionnaires were distributed to students and non-students in these countries. Using a snowballing technique (Salganik and Heckathorn 2004), the survey instruments were distributed to graduate students of large universities in the three countries, who were incentivized for their participation; each graduate student was instructed to recruit several non-students.

The research questionnaire was designed principally for multi-variate analyses, which requires a recommended sample group size of ten times the number of items measured (Streiner 2013). Since the original CCP scale contained nine items, a minimum sample size required would be 120. In this research, samples of 433 U.S., 355 German, and 202 Thai respondents were surveyed (see Table 1 for sample characteristics).

Tab. 1: Sample group characteristics

	U.S. (%) n = 433	Germany (%) n = 355	Thailand (%) n = 202
<i>Sex / Gender</i>			
Male	52	50	37
Female	48	50	63
<i>Age</i>			
14-19	24	3	16
20-29	61	48	65
30-39	3	13	16
40-49			5

50 and over	2	16	1
	1	20	

[Walsh, Hennig-Thurau, and Mitchell's \(2007\)](#) ~~The~~ consumer confusion scale [was](#) used in this study ~~is the one developed in Germany by~~ [Walsh, Hennig-Thurau, and Mitchell \(2007\)](#) consisting of three measures: (1) *Stimulus Similarity Confusion Proneness*; (2) *Stimulus Overload Confusion Proneness* and (3) *Stimulus Ambiguity Confusion Proneness*. In the original study (n = 264), a pool of 26 items were reduced in several steps, including researcher judgment, ~~and using~~ principal axis analysis with Varimax rotation, and confirmatory factor analysis (Walsh et al. 2007). The final scale contained nine Likert-type items anchored on 1 (strongly disagree) to 5 (strongly agree).

In the present study, the questionnaire was pre-tested amongst participants from all three countries to ensure equivalence in meaning (Triandis et al. 1973). The final questionnaire was face-validated and then pre-tested amongst convenience samples drawn from all three countries.

3.3 Analysis

Measurement invariance assessment tends to involve multi-group confirmatory factor analysis (CFA), ~~which examines~~ [the change in fit indices](#) (e.g., goodness-of-fit index (GFI)) when cross-group constraints are imposed on a measurement model (Steenkamp and Baumgartner 1998). Accordingly, a multi-group CFA was performed to test the appropriateness of the original factor structure (Walsh et al. 2007) in [the U.S., Germany, and Thailand](#) ~~the three countries~~. [As identified by Walsh et al. \(2007\)](#), ~~t~~The nine items were assigned to the respective factors ~~as identified by Walsh et al. (2007)~~. The model fit was relatively poor with all fit indices (GFI, AGFI, CFI, RMR, and RMSEA) not satisfying the recommended thresholds. Moreover,

few items loaded on their respective target factors, ~~with a~~ and few loadings were substantially different from zero. These results provide no support of configural invariance, ~~that is, the pattern of the items on the factors is not the same for the U.S., Germany, and Thailand~~ the three countries. The inability to establish configural invariance meant that an assessment of metric and structural invariance was not possible ~~either~~.

Therefore, the country-specific factor structures had to be determined. Accordingly, three separate CFA were performed using AMOS with the maximum likelihood technique. The overall fit of each of the three measurement models was sound. However, on closer inspection ~~of the U.S. and Thai data~~, it emerged that various items had low loadings ~~with respect to the U.S. and Thai data~~, indicating that they are not strongly determined by the respective factor. Therefore, following Walsh et al. (2007), we performed exploratory factor analyses (EFA) on the U.S. and Thai data to determine the ‘true’ factor structure. The EFAs, which resulted in three-factor solutions for the U.S. and Thai data, respectively, show that the scale is not measuring CCP similarly in the three countries. The factor structures identified by means of EFA were then tested using CFA. The CFA results are presented in Table 2.

Tab. 2: Confusion measurement model results

	U.S.	Germany	Thailand
GFI	.91	.96	.92
AGFI	.88	.93	.89
CFI	.9	.94	.88
RMR	.08	.08	.06
RMSEA	.07	.09	.04
	<i>Composite Reliability / AVE</i>	<i>Composite Reliability / AVE</i>	<i>Composite Reliability / AVE</i>
Factor 1	.75 / .38	.79 / .66	.86 / .61
Factor 2	.73 / .58	.80 / .57	.78 / .55
Factor 3	--	.83 / .55	.84 / .72

Note: Only the German data confirmed the original factor structure with the three dimensions Stimulus Similarity Proneness, Stimulus Overload Proneness, and Stimulus Ambiguity Proneness

The U.S. data provided no identification with the original CCP factor structure. The first factor was explained by six items, ~~the~~ factors two and three by two and one items,

respectively. The composite reliability (CR) of the first two factors was satisfactory (CR not computed for the third factor because it was measured with only one item), however, the average variances explained (AVE) ~~of by~~ the first factor was below the recommended threshold of .5; ~~thus~~ indicating low discriminant validity (Fornell and Larcker 1981).

Given that the original CCP scale was developed in Germany, it was not surprising that the scale performed well with German data. All three original construct dimensions were confirmed. All CR and AVE values exceeded recommended thresholds.

The Thai data showed the least identification with the original CCP scale. The global goodness-of-fit indices were acceptable as well as ~~the~~ CR and AVE values. However, ~~contra to Walsh et al.'s (2007) original study,~~ different items loaded onto the three factors ~~than in Walsh et al.'s (2007) original study~~ (see Table 3). ~~For the Thai data, This-this~~ result clearly disconfirms the adequacy of the factor structure suggested by Walsh et al. (2007) ~~for the Thai data.~~

Tab. 3: Factors found for U.S., German, and Thai consumer confusion proneness

Items	Factor Loadings (from CFA)	Mean
U.S.		
Factor 1		
Due to the great similarity of many products it is often difficult to discover new products	.51	2.89
I do not always know exactly which products meet my needs best.	.59	
There are so many brands to choose from that I sometimes feel confused.	.59	2.97
Products such as MP3/DVD players or mobile phones often have so many features that a comparison of different brands is barely possible.	.55	3.09
When buying a product I usually do not feel thoroughly informed.	.66	3.04
When purchasing certain products, such as a computer or hifi, I feel uncertain as to product features that are particularly important for me.	.70	3.21
Factor 2		
The information I get from advertising often are so vague that it is hard to know what a product can actually perform.	.86	2.58
Some brands look so similar that it is uncertain whether they are made by the same manufacturer or not.	.65	2.91
Factor 3		
Due to the host of stores it is sometimes difficult to decide where to shop.	.92	3.05
GERMANY		
Factor 1: Similarity confusion		
Due to the great similarity of many products it is often difficult to detect new products.	.78	3.44
Some brands look so similar that it is uncertain whether they are made by	.84	3.36

the same manufacturer or not.		
Factor 2: Overload confusion		
I do not always know exactly which products meet my needs best.	.77	2.94
There are so many brands to choose from that I sometime feel confused.	.8	2.68
Due to the host of stores it is sometimes difficult to decide where to shop.	.68	2.47
Factor 3: Ambiguity confusion		
Products such as MP3/DVD players or mobile phones often have so many features that a comparison of different brands is barely possible.	.78	3.41
The information I get from advertising often are so vague that it is hard to know what a product can actually perform.	.73	3.46
When buying a product I rarely feel sufficiently informed.	.71	3.16
When purchasing certain products, such as a computer or hifi, I feel uncertain as to product features that are particularly important for me.	.75	3.27
THAILAND		
Factor 1		3.47
When purchasing certain products, such as a computer or hifi, I feel uncertain as to product features that are particularly important for me.	.84	3.46
Products such as MP3/DVD players or mobile phones often have so many features that a comparison of different brands is barely possible.	.81	3.48
The information I get from advertising often are so vague that it is hard to know what a product can actually perform.	.75	3.46
Due to the host of stores it is sometimes difficult to decide where to shop.	.73	3.57
Factor 2		
When buying certain products I usually do not feel enough informed.	.78	3.40
I do not always know exactly which products meet my needs best.	.78	3.41
Due to the great similarity of many products it is often difficult to discover new products.	.65	3.57
Factor 3		3.61
There are so many brands to choose from that I sometime feel confused.	.86	3.60
Some brands look so similar that it is uncertain whether they are made by the same manufacturer or not.	.84	3.47

In the following, the three factors identified in the U.S. and Thailand are described.

Factor 1_{U.S.}: This factor is concerned with consumers' propensity to think that different products in a product category are visually and functionally similar. The highest loading item is "Due to the great similarity of many products it is often difficult to discover new products". This factor combines items that in the original CCP scale loaded onto the similarity, overload, and ambiguity confusion proneness dimensions.

Factor 2_{U.S.}: This factor comprises two items that in the CCP scale loaded onto the similarity and ambiguity confusion proneness dimensions.

Factor 3_{U.S.}: The third factor is interesting ~~in that~~ because it comprises of only one item: "Due to the host of stores it is sometimes difficult to decide where to shop."

Factor 1_{Thai}: This factor resembles the original ambiguity confusion proneness dimensions, as three of the four original items load onto it. One item (“Due to the host of stores it is sometimes difficult to decide where to shop”) loads onto the overload confusion proneness dimension in the original scale.

Factor 2_{Thai}: The three items loading onto this factor ~~come from~~ all come from the three original CCP dimensions.

Factor 3_{Thai}: This factor includes two items measuring overload and similarity confusion proneness, formerly (~~i.e., in the original scale~~) ~~measuring overload and similarity confusion proneness~~.

Beyond the factor structure, we inspected the mean item values across the three countries (see Table 3, last column). ~~It appears that~~ Thai consumers appear to be ~~are~~ more confusion prone than their American and German counterparts.

4. General discussion

Our examination of the consumer confusion proneness scale in ~~different countries~~ the U.S., Germany and Thailand suggests that the scale is less applicable in the U.S. (a western individualistic country) and Thailand, an eastern collectivistic country, where people, on average, appear more prone to confusion.

Essentially, there are two alternative explanations for this difference. The first would be that there are real confusion-relevant differences between the U.S., Germany, and Thailand. For example, consumers from highly-developed economies such as German may have learned how to cope with confusing stimuli, whereas consumers from less-developed countries such as Thailand are more likely to face confusing stimuli owing to more liberal regulations in terms of brand emulations and competitive advertising. An alternative explanation could be

that ‘Western’ scales perform acceptably in the societal context they are developed in but may be problematic elsewhere (Hassan et al. 2011; Wong et al. 2003). This notion, of course, does not fully explain why the original CCP scale did not fit conceptually with consumer confusion in the ~~U.S.~~U.S. The U.S. data yielded a three-factor structure. However, the three factors differ from those identified in Germany by Walsh et al. (2007). Most notably, the first U.S. factor combines items that, ~~in the original CCP scale,~~ loaded onto three different factors ~~in the original CCP scale.~~ Thus, the results ~~thus~~ suggest that in its current form the CCP scale, ~~in its current form,~~ is not fully generalizable to the U.S., which (like Germany) is an individualistic country. This said, future research on U.S. consumers might find the adapted (three-dimensional) version of the CCP scale useful.

The exploratory factor and confirmatory analysis on the Thai data showed that some elements of stimulus ambiguity and stimulus similarity did exist in the three new Thai consumer confusion factors, ~~-. To some extent this suggesting suggests~~ a commonality ~~to some extent~~ across different populations. The results may also be partly attributed to cultural differences, particularly regarding the role of the family and individual identity. The inability of the U.S. and Thai data to conform to the original CCP scale developed in Germany does not necessarily suggest the scale is inherently unreliable. Instead, ~~but~~ underlying societal differences may exist.

Thai culture can be identified as highly collectivist with a high regard for the family, culminating in the individual having a sense of identity bestowed from other family members (e.g., Patterson and Smith 2001). Although not previously identified from research, it would appear that Thai consumers require better information to assess product features, This ~~may~~which might explain Factor 1. Of course, we can only speculate how consumers attempt to cope with this particular type of confusion. Perhaps ~~they~~ Thai consumers turn to their family to enhance their decision-making competence. Engaging with the family unit may help

~~the~~ Thai consumers to obtain needed product information, thus allowing them to engage in an individualistic consumer approach.

Taken together, our results reveal that the CCP scale performs well in Germany, but not in the U.S. and Thailand. ~~This suggesting suggests~~ that the scale needs to be adapted to other cultural contexts.

4.1 Implications

The empirical results have implications for marketing research and management as well as consumer education. ~~However, in the three countries; but the~~ research sample limitations ~~of the research~~ suggest that these implications must be treated as indicative and not definitive. This research aimed to replicate and test the reliability and validity of the multi-dimensional CCP scale in three different countries, i.e. the U.S., Germany and Thailand. Overall, the findings provided limited support for the CCP scale as a viable scale in measuring consumer confusion proneness cross-culturally, with very limitations indications of the generality of scale items. In its current form, ~~While~~ the CCP scale has construct validity in Germany, ~~in its current form, it but~~ lacks the potential to be used across international consumer populations.

In terms of marketing practice, one general implication is that marketers need to understand what causes consumer confusion and how it can be avoided for their products. Although the CCP construct comprises of three dimensions in all three studied countries, the dimensions themselves differ quite markedly in terms of content. However, CCP should nonetheless be of concern to marketers. Indeed, reducing consumer confusion proneness and conversely increasing cognitive clarity could be a major source of competitive advantage in any market, ~~Pbut~~ particularly in those markets where consumer confusion has already been shown to exist. In the present study, Thai consumers exhibited the highest mean values on the CCP items. Although we do not believe that to be the case, Thai respondents may have understated their level of confusion in order not to lose face (i.e., social desirability bias).

Since confusion is such a sensitive subject, it is possible that some respondents did not give truthful answers out of fear of embarrassment. ~~A finding~~ suggesting that actual ~~differences in CCP between~~ Thai and U.S. and German consumers ~~s CCP differences~~ are higher than reported in the current study. ~~To minimize consumers' confusion w~~When targeting confusion prone consumers, marketers should consider using fewer technical expressions in advertising, product packaging and product manuals ~~to minimize consumers' confusion~~. Moreover, in cooperation with retailers, trained sales staff should be advised to recognize consumers who are confused about technical products and help ~~them~~ to reduce their confusion. Sales personnel should be cautious of not overloading this group of consumers with too many technical terms and expressions.

Moreover, the original or country-specific conceptual model gives marketers guidance on what to look for and the areas where attention may be required. Marketers ~~s~~ could look at their ~~own and their competitors'~~ communications ~~and those of their competitors and to~~ identify where they are insufficiently different and likely to be perceived by some consumers as similar. They could also look at their products, product instructions and promotions to examine the amount of information they give and the possibility of it leading to overload confusion. ~~Finally, they marketers could assess and~~ whether all their information is clear and unambiguous. This involves a critical evaluation of the scope and format of information on packages and in advertisements. ~~P-and~~ perhaps more consideration of Miller's (1956) classical findings ~~(of a maximum of seven meaningful information chunks)~~ when designing stores, packages, commercial messages and company web sites ~~is appropriate here~~.

It is ~~also~~ important to know what type of confusion exists. An alternative strategy ~~to increase the consumers' ability to cope with confusion is to for reducing-reduce the~~ potential sources of confusion ~~is to increase consumers' ability to cope with it~~. For example, ~~marketers could suggest via their communications, using various PR-public relations~~ activities or

personal sales forces, marketers could suggest to their consumers -various confusion reducing strategies ~~which consumers could use~~. These might be as simple as ~~to~~-encourageing confusion prone consumers to shop with a friend ~~who could~~to help in making purchase decisions (e.g., Mitchell et al. 2005). Alternatively, this maybe ~~or~~ as complicated as encouraging consumers to use consumer magazines and other consumer reports to identify which is the best recommended buys for those product to purchases ~~which have been rated well in these assessments~~. In countries with a similar CCP (~~in terms of~~ factor structure), firms could coordinate activities aimed at reducing confusion.

4.2 Limitations and further research

The limitations of the study indicate that the findings should be tentatively used. While we do not consider ~~it as no limitation as such~~, the absence of configural invariance as a limitation, it does ~~deserves~~ deserve a mention. Although the assumption of full metric invariance is an ideal to be striven for, as opposed to a realizable condition (Cleveland, Papadopoulos, and Laroche 2011), configural invariance (preferably partial metric invariance) needs to be established before meaningful comparisons between country samples are made. In other words, for a measurement concept to be transferrable across populations, it has to show at least configural invariance (Steenkamp and Baumgartner 1998). The CCP scale failed this requirement which is why it may be inappropriate to use the scale to explore relationships between constructs.

~~One sampling limitation~~ With in-regards to the three samples and, apart from the convenience nature, one sampling limitation concerns the relatively low average age of consumers, Here~~where~~ the notion of consumer confusion may lose some of its relevance (Walsh and Mitchell 2005a). Thus, future research ~~to~~ should aim to achieve ~~reach~~ a more ~~representative~~ sample more representative in terms of age ~~would be useful~~.

An implicit assumption of the present research is that ~~the three countries studied (the~~ U.S., Germany, and Thailand) differ culturally. ~~However, t~~This assumption ~~however~~ was not empirically assessed because culture was not measured at an individual consumer level. The inclusion of a cultural measure in future research would also assist researchers in understanding the extent that differing underlying cultural values may ~~be affecting~~ and ~~determining~~ determine differing CCP-related attitudes and behaviors.

Given then the high degree of cultural homogeneity of several countries in the East and Southeast Asian region, findings from Thailand may, ~~to a certain degree,~~ be loosely generalized to other countries (Singhapakdi et al. 2000). We posit then that consumer confusion may arise from an inability to differentiate product meanings, themselves which may be culturally laden with values from their native market. Future research on consumer confusion could consider this issue in much greater depth, ~~For example, perhaps~~ by focusing on the wider cultural role of the family in product acquisition, ~~and~~ and how the individual's identity and ability to make a decision are inherently symbiotic.

Finally, future cross-cultural examinations of the CCP scale could assess the scale's external criteria by embedding the measure in the same nomological network.

References

- Balabanis, G. & Craven, S. (1997). Consumer Confusion from Own Brand Lookalikes: An Exploratory Investigation. *Journal of Marketing Management*, 13, 299-313.
- Berry, L. L. & Yadav, M. S. (1996). Capture and Communicate Value in Pricing of Services. *Sloan Management Review*, 37 (4), 41-52.
- Brengman, M., Geuens, M., & Pelsmacker, P. D. (2001). The impact of consumer characteristics and campaign related factors on brand confusion in print advertising. *Journal of Marketing Communications*, 7 (4), 231-243.
- Brierley, S. (1995). A matter of life and death. *Marketing Week*, 18 (July 28), 26.
- Broderick, Amanda J., Catherine Demangeot, Natalie Ross Adkins, Nakeisha S. Ferguson, Geraldine Rosa Henderson, Guillaume Johnson, Eva Kipnis, James M. Mandiberg, Rene

- Dentiste Mueller, Chris Pullig, Abhijit Roy, and Miguel Angel Zúñiga (2011). Consumer empowerment in multicultural marketplaces: Navigating multicultural identities to reduce consumer vulnerability. *Journal of Research for Consumers*, (19), 1-13.
- Calder, B. J., Phillips, L. W. & Tybout, A. M. (1980). The Design, Conduct and Application of Consumer Research: Theory vs. Effects Orientated Studies. *Proceedings of the Educators' Conference*, American Marketing Association, Chicago, USA, 307-311.
- Cheary, N. (1997). Fashion Victim. *Marketing Week*, 20 (October), 36-39.
- Chen, Y. S., & Chang, C. H. (2013). Greenwash and green trust: The mediation effects of green consumer confusion and green perceived risk. *Journal of Business Ethics*, 114 (3), 489-500.
- Chryssochoidis, G. (2000). Repercussions of consumer confusion for late introduced differentiated products. *European Journal of Marketing*, 34, 705-722.
- Chuchinprakarn, S. (2003). Consumption of counterfeit goods in Thailand: who are 434 the patrons? In: Turley, D., Brown, S. (Eds.), *European Advances in Consumer Research*. Association for Consumer Research, Provo, UT, pp. 48-53.
- Cleveland, M., Papadopoulos, N., & Laroche, M. (2011). Identity, demographics, and consumer behaviors: International market segmentation across product categories. *International Marketing Review*, 28(3), 244-266.
- Consumer Federation of America (2015). Consumer Federation of America North American Consumer Protection Investigators 2014 Consumer Complaint Survey Report. <http://www.consumerfed.org/pdfs/2014-consumer-survey-report.pdf>.
- DPMA (Deutsches Patent- und Markenamt) (2015). Auszug aus der Jahresstatistik 2014 des Deutschen Patent- und Markenamts, http://presse.dpma.de/docs/pdf/pressemappen/aufeinenblick_2015.pdf.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18 (3), 382-388.
- Foxman, E. R., Muehling, D. D. & Berger, P. W. (1990). An Investigation of Factors Contributing to Consumer Brand Confusion. *Journal of Consumer Affairs*, 24, 170-189.
- French, P. & Crabbe, M. (1998). *One Billion Shoppers, Accessing Asia's Consuming Passions and Fast-Moving Markets – After the Meltdown*, London: NB Publishing.
- Garaus, M., & Wagner, U. (2016). Retail shopper confusion: Conceptualization, scale development, and consequences. *Journal of Business Research*. <http://www.sciencedirect.com/science/article/pii/S0148296316000564>.
- Hassan, L. M., Shiu, E., & Walsh, G. (2011). A multi-country assessment of the long-term orientation scale. *International Marketing Review*, 28(1), 81-101.

- Huffman, C. & Kahn, B. E. (1998). Variety for Sale: Mass Customization or Mass Confusion? *Journal of Retailing*, 74 (4), 491-513.
- Jacoby, J. & Morrin, M. (1998). Not manufactured or authorized by...': recent federal cases involving trademark disclaimer. *Journal of Public Policy & Marketing*, 17, 97-108.
- Jantararat, J., Laisawat, S., & Shannon, R. (2012). The Shopping Behaviors of Fashion Innovative Thai Consumers. *Journal of Academy of Marketing Science*, 17 (1), 13-21.
- Kangun, N. & Polonsky, M. J. (1995). Regulation of environmental marketing claims: a comparative perspective. *International Journal of Advertising*, 14 (1), 1-24.
- Kapferer, J.-N. (1995). Brand Confusion: Empirical Study of a Legal Concept. *Psychology & Marketing*, 12, 551-568.
- Kasper, H., Bloemer, J., & Driessen, P. H. (2010). Coping with confusion: The case of the Dutch mobile phone market. *Managing Service Quality: An International Journal*, 20(2), 140-160.
- Leek, S., & Chansawatkit, S. (2006). Consumer confusion in the Thai mobile phone market. *Journal of Consumer Behaviour*, 5(6), 518-532.
- Leek, S., & Kun, D. (2006). Consumer confusion in the Chinese personal computer market. *Journal of Product & Brand Management*, 15(3), 184-193.
- Leek, S., Szmigin, I., & Baker, E. (2015). Consumer confusion and front of pack (FoP) nutritional labels. *Journal of Customer Behaviour*, 14 (1), 49-61.
- Lu, A. C. C., & Gursoy, D. (2015). A conceptual model of consumers' online tourism confusion. *International Journal of Contemporary Hospitality Management*, 27(6), 1320-1342.
- Lu, A. C. C., Gursoy, D., & Lu, C. Y. R. (2016). Antecedents and outcomes of consumers' confusion in the online tourism domain. *Annals of Tourism Research*, 57 (March), 76-93.
- Miller, G. A. (1956). The Magical Number Seven, Plus or Minus Two: Some Limits On Our Capacity for Processing Information. *Psychological Review*, 63 (March), 81-92.
- Mitchell, V.-W. & Bates, L. (1998). UK Consumer Decision-Making Styles. *Journal of Marketing Management*, 14, 199-225.
- Mitchell, V.-W. & Papavassiliou, V. (1997). Exploring the Concept of Consumer Confusion. *Market Intelligence & Planning*, 15 (April-May), 164-169.
- Mitchell, V.-W. & Papavassiliou, V. (1999). Market Causes and Implications of Consumer Confusion. *Journal of Product & Brand Management*, 8, 319-339.
- Mitchell, V.-W., Walsh, G., & Yamin, M. (2005). Towards a conceptual model of consumer confusion. *Advances in consumer Research*, 32(1), 143-150.

- Patterson, P. G., & Smith, T. (2001). Relationship benefits in service industries: a replication in a Southeast Asian context. *Journal of Services Marketing*, 15(6), 425-443.
- Poiesz, T. B. C. & Verhallen, T. M. M. (1989). Brand Confusion in Advertising. *International Journal of Advertising*, 8, 231-244.
- Salganik, M. J., and Heckathorn, D. D. (2004), "Sampling and estimation in hidden populations using respondent-driven sampling", *Sociological Methodology*, 34 (1), 193-240.
- Schweizer, M., Kotouc, A. J., & Wagner, T. (2006). Scale development for consumer confusion. *Advances in Consumer Research*, 33(1), 184-190.
- Shim, S. & Gehrt, K. C. (1996). Hispanic and Native American Adolescents: An Exploratory Study of Their Approach to Shopping. *Journal of Retailing*, 72 (3), 307-324.
- Singhapakdi, A., Salyachivin, S., Virakul, B., & Veerayangkur, V. (2000). Some important factors underlying ethical decision making of managers in Thailand. *Journal of Business Ethics*, 27 (3), 271-284.
- Spiteri Cornish, L., & Moraes, C. (2015). The impact of consumer confusion on nutrition literacy and subsequent dietary behavior. *Psychology & Marketing*, 32 (5), 558-574.
- Sproles, G. B. & Kendall, E. (1986). A Methodology for Profiling Consumers' Decision-Making Styles. *Journal of Consumer Affairs*, 20 (2), 267-279.
- Steenkamp, J.-B. E. M. and H. Baumgartner (1998). 'Assessing Measurement Invariance in Cross-National Consumer Research', *Journal of Consumer Research*, 25, 78-90.
- Streiner, D. L. (2013). 10 Figuring Out Factors: The Use and Misuse of Factor Analysis. *A Guide for the Statistically Perplexed: Selected Readings for Clinical Researchers*, 110.
- Symphony IRI (2011). Retail Private Label Brands in Europe – Current and Emerging Trends, http://www.iriworldwide.fr/portals/0/articlePdfs/Special_Report-Private_Label_Europe-Dec2011.pdf.
- Thanasuta, K. (2015). Thai consumers' purchase decisions and private label brands. *International Journal of Emerging Markets*, 10 (1), 102-121.
- Tjiptono, F., Arli, D., & Bucic, T. (2014). Consumer confusion proneness: insights from a developing economy. *Marketing Intelligence & Planning*, 32 (6), 722-734.
- Triandis, H. C., Malpass, R. & Davidson, A. (1973). Psychology and culture. In *Annual Review of Psychology*, Vol. XXIV, Palo Alto: Annual Reviews Inc., 355-378.
- Turnbull, P. W., Leek, S. & Ying, G. (2000). Customer Confusion: The Mobile Phone Market. *Journal of Marketing Management*, 16 (January-April), 143-163.
- U.S. Central Intelligence Agency (2015). The World Factbook 2015. Available at <https://www.cia.gov/library/publications/the-world-factbook/geos/th.html>.

- Walsh, G., Mitchell, V.-W. & Hennig-Thurau, T. (2001). German consumer decision-making styles. *Journal of Consumer Affairs*, 35 (1), 73-95.
- Walsh, G., Hennig-Thurau, T., & Mitchell, V. W. (2007). Consumer confusion proneness: scale development, validation, and application. *Journal of Marketing Management*, 23(7-8), 697-721.
- Walsh, G., Mitchell, V.-W. (2005a). Demographic characteristics of consumers who find it difficult to decide, *Marketing Intelligence & Planning*, 23 (3), 281-295.
- Walsh, G., & Mitchell, V. W. (2005b). Consumer vulnerability to perceived product similarity problems: scale development and identification. *Journal of Macromarketing*, 25(2), 140-152.
- Walsh, G., & Mitchell, V. W. (2010). The effect of consumer confusion proneness on word of mouth, trust, and customer satisfaction. *European Journal of Marketing*, 44 (6), 838-859.
- Walsh, G., Mitchell, V. W., Kilian, T., & Miller, L. (2010). Measuring consumer vulnerability to perceived product-similarity problems and its consequences. *Journal of Marketing Management*, 26(1-2), 146-162.
- Wang, Q., & Shukla, P. (2013). Linking sources of consumer confusion to decision satisfaction: The role of choice goals. *Psychology & Marketing*, 30 (4), 295-304.
- Wobker, I., Eberhardt, T., & Kenning, P. (2015). Consumer confusion in German food retailing: the moderating role of trust. *International Journal of Retail & Distribution Management*, 43 (8), 752-774.
- Wong, N., Rindfleisch, A. & Burroughs, J. E. (2003). Do Reverse-Worded Items Confound Measures in Cross-Cultural Consumer Research? The Case of the Material Value Scale. *Journal of Consumer Research*, 30 (June), 72-91.
- Wongtada, N., Leekulthanit, O., & Singhapakdi, A. (1998). Thailand: Consumer behaviour and marketing. In Pecotich, A. and Shultz, C. (Eds), *Marketing and Consumer Behaviour in East and Southeast Asia*, Sydney: McGraw-Hill.